

Mark L. Whitaker (admitted *Pro Hac Vice*)  
 MWhitaker@mofo.com  
 Daniel P. Muino (CA BAR NO. 209624)  
 DMuino@mofo.com  
 G. Brian Busey (admitted *Pro Hac Vice*)  
 GBusey@mofo.com  
 Bradley S. Lui (CA BAR NO. 143088)  
 BLui@mofo.com  
 Mary Prendergast (CA BAR NO. 272737)  
 MPrendergast@mofo.com  
 Fahd H. Patel (admitted *Pro Hac Vice*)  
 FPatel@mofo.com  
 Corinna J. Alanis (CA BAR NO. 287164)  
 CAlanis@mofo.com  
 MORRISON & FOERSTER LLP  
 2000 Pennsylvania Avenue, NW  
 Washington, District of Columbia 20006-1888  
 Telephone: (202) 887-1500  
 Facsimile: (202) 887-0763

Bryan Wilson (CA BAR NO. 138842)  
 BWilson@mofo.com  
 MORRISON & FOERSTER LLP  
 755 Page Mill Road  
 Palo Alto, California 94304-1018  
 Telephone: (650) 813-5600  
 Facsimile: (650) 494-0792

Wendy Ray (CA SBN 226269)  
 WRay@mofo.com  
 MORRISON & FOERSTER LLP  
 707 Wilshire Boulevard, Suite 6000  
 Los Angeles, California 90017-3543  
 Telephone: (213) 892.5200  
 Facsimile: (213) 892.5454

Attorneys for Plaintiffs  
 TERADATA CORPORATION,  
 TERADATA US, INC., and  
 TERADATA OPERATIONS, INC.

UNITED STATES DISTRICT COURT  
 NORTHERN DISTRICT OF CALIFORNIA

TERADATA CORPORATION, TERADATA  
 US, INC., and TERADATA OPERATIONS,  
 INC.

Plaintiffs,

v.

SAP SE, SAP AMERICA, INC., and SAP  
 LABS, LLC

Defendants.

Case No. 3:18-CV-03670-WHO

**SECOND AMENDED COMPLAINT  
 FOR TRADE SECRET  
 MISAPPROPRIATION, COPYRIGHT  
 INFRINGEMENT, VIOLATION OF  
 SHERMAN ACT § 1, VIOLATION OF  
 CLAYTON ACT § 3, VIOLATION OF  
 SHERMAN ACT § 2**

**DEMAND FOR JURY TRIAL**

1 Plaintiffs Teradata Corporation, Teradata US, Inc., and Teradata Operations, Inc.  
2 (collectively, “Teradata”) complain and allege as follows against Defendants SAP SE, SAP  
3 America, Inc., and SAP Labs, LLC (collectively, “SAP”).

4 **THE NATURE OF THE ACTION**

5 1. This case is about SAP’s campaign of anticompetitive conduct directed at  
6 Teradata. Over at least the last decade, SAP has used its powerful position in Enterprise  
7 Resource Planning (“ERP”) Applications to gain entrance to and quickly grab market share in the  
8 Enterprise Data Analytics and Warehousing (“EDAW”) market, in which it previously had  
9 essentially no presence. SAP’s strategy began in 2008, when SAP leveraged its position in ERP  
10 Applications to lure Teradata into a purported joint venture in order to gain access to Teradata’s  
11 valuable intellectual property. The purpose of the joint venture—a purpose which Teradata now  
12 knows was a false one on SAP’s part—was to combine SAP’s ERP Applications suite and  
13 Business Warehouse reporting tool (SAP BW) with Teradata’s industry-leading “massively  
14 parallel processing” (MPP) architecture for EDAW. SAP then stole Teradata’s trade secrets  
15 (accumulated by Teradata over the course of four decades in the EDAW space), and used them to  
16 quickly develop and introduce a competing (though inferior) product: SAP HANA.

17 2. Upon release of its new product, SAP promptly terminated the parties’ joint  
18 venture, and it is now attempting to coerce its customers into using HANA only, to the exclusion  
19 of Teradata, by forcing its customers to adopt HANA in exchange for upgrading their ERP  
20 Applications. Moreover, and on information and belief, SAP has begun significantly restricting  
21 Teradata’s ability to access customers’ SAP-derived data. Through this conduct, SAP has  
22 deliberately sought to exploit its large, existing ERP customer base to the detriment of Teradata  
23 and its customers. Given the extremely high costs of switching ERP providers, SAP’s ERP  
24 customers are effectively locked-in to using SAP’s ERP Applications, and SAP is now attempting  
25 to lock them into using only HANA in the EDAW market as well.

26 3. SAP could not have so quickly developed and marketed HANA in the first place  
27 without its theft of Teradata’s trade secrets. Now, using the fruits of that theft and its position in  
28 ERP Applications, SAP is attempting to foreclose Teradata from supplying EDAW solutions to

1 many of the largest corporations in the world. SAP's anticompetitive strategy has resulted in  
2 irreparable and ongoing harm to Teradata in the form of lost customer relationships and  
3 opportunities, lost profits, and continued erosion of market share in the very industry Teradata  
4 pioneered. Teradata therefore is entitled to an injunction barring SAP's illegal conduct, monetary  
5 damages, and all other legal and equitable relief available under law and which the court may  
6 deem proper.

### 7 PARTIES

8 4. Teradata Corporation is organized under the laws of Delaware. Its global  
9 headquarters is currently located at 10000 Innovation Drive, Miamisburg, Ohio 45342, with an  
10 announced move to 17095 Via del Campo, San Diego, California 92127, in late 2018. Teradata  
11 Corporation, either itself or through one or more of its subsidiaries, conducts research,  
12 development, engineering, and other technical operations related to its EDAW products at its  
13 facilities at 17095 Via del Campo, San Diego, California 92127.

14 5. Teradata US, Inc., a wholly-owned subsidiary of Teradata Corporation, is a  
15 corporation organized under the laws of Delaware, with its current headquarters at 10000  
16 Innovation Drive, Miamisburg, Ohio 45342. Teradata US, Inc. will also be moving its  
17 headquarters to San Diego in late 2018. Teradata US, Inc. is the owner of all Teradata intellectual  
18 property worldwide.

19 6. Teradata Operations, Inc., a wholly-owned subsidiary of Teradata Corporation, is a  
20 corporation organized under the laws of Delaware, with its current headquarters at 10000  
21 Innovation Drive, Miamisburg, Ohio 45342. Teradata Operations, Inc. will also be moving its  
22 headquarters to San Diego in late 2018. Teradata Operations, Inc. is responsible for conducting  
23 all of Teradata's business operations in the United States, including product development and  
24 sales.

25 7. Defendant SAP SE is a European company. Its principal place of business is  
26 located at Dietmar-Hopp-Allee 16, Walldorf, Germany, 69190. SAP SE converted from a  
27 German "AG" corporation to an "SE" European company in 2014.  
28



12. This Court has personal jurisdiction over SAP America because it has committed acts of infringement and misappropriation in this District. SAP America has sufficient minimum contacts with this District because, for example, SAP America's wholly owned subsidiary, SAP Labs, is located within this District. SAP America also has a place of business in this district. In addition, SAP America, directly or through intermediaries, sells or offers for sale infringing products and services in this District.

13. This Court has personal jurisdiction over SAP Labs because it has a place of business located within this District. Further, SAP's misappropriation and infringement of Teradata's intellectual property was carried out, at least in part, at SAP Labs' COIL facility in this District.

### **VENUE AND INTRADISTRICT ASSIGNMENT**

14. Venue is proper under 28 U.S.C. § 1391(b) because a substantial part of the events or omissions giving rise to the claims occurred or a substantial part of property that is the subject of the action is situated in this District. Additionally, venue is proper under 28 U.S.C. § 1400(a) and 15 U.S.C. § 22 for the copyright and antitrust claims, respectively, because SAP Labs and SAP America (and SAP SE, through its subsidiaries) may be found and transact business in this district.

15. This is an Intellectual Property and Antitrust Action to be assigned on a district-wide basis pursuant to Local Rule 3-2(c).

### **BACKGROUND**

#### **A. Teradata Is One of the World's Leading Technology Companies and a Pioneer of EDAW Products, Including MPP Database Systems.**

16. Teradata's flagship product, and the cornerstone of all of its enterprise-analytics offerings, is Teradata Database. Teradata Database is a massively parallel relational database management system (RDBMS) specifically designed for Enterprise Data Analytics and Warehousing (EDAW). EDAW involves the centralized storage and integration of vast amounts of data collected from numerous sources across an entire business enterprise in its day-to-day operations, giving the business a complete "enterprise view" of its operational activities. In

1 addition to data storage, EDAW is especially valuable in helping the world's largest companies  
2 (most of whom serve millions or even billions of customers and/or process millions or billions of  
3 transactions or data-generating events every day) analyze and fully understand the entirety of  
4 their business operations, including how events happening in one area of the business impact  
5 operations in other areas. EDAW also assists these companies in making the strategic and tactical  
6 decisions, often in real-time, which allow them to operate as efficiently and profitably as possible.

7 17. Teradata has been a leading provider of EDAW products for nearly 40 years.  
8 Teradata pioneered and was the first commercial EDAW vendor to employ the highly scalable  
9 computing architecture known as "massively parallel processing" (MPP). Teradata's MPP  
10 architecture is designed specifically for executing high volumes of complex analytical queries  
11 (tens of thousands at a time) on the massive amounts of data generated by EDAW customers. As  
12 the term MPP suggests, Teradata's architecture accomplishes this by dividing equally both the  
13 data and the analytical workload across dozens, hundreds, or (in many cases) thousands of  
14 parallel processor units, and executing the analytical tasks concurrently across these parallel units.

15 18. A Teradata system does this with "linear-performance scalability," meaning that  
16 the system can grow to fit each customer's needs, taking on as many additional parallel processor  
17 units and data-storage devices as necessary to accommodate whatever amount of data and  
18 whatever type of analytics workload the customer can throw at it. As the customer's data  
19 volumes and workload demands increase, the Teradata system can grow to accommodate them  
20 with the simple addition of parallel units and (if necessary) redistribution of data and workload  
21 across the expanded system. The Teradata system is unique in its ability to accommodate this  
22 type of growth without diminishing the returns or sacrificing the processing power or efficiency  
23 of any of its parallel units.

24 19. Teradata's MPP technology grew out of research conducted at the California  
25 Institute of Technology. After starting the company in a garage in Marina Del Rey, California,  
26 the founders obtained funding in mid-1979 and Teradata was born on July 13, 1979. The  
27 founders chose the name "Teradata" to symbolize the ability of their flagship database to manage  
28 trillions of bytes of data, an unimaginable amount of data at that time.

20. Teradata released the first commercial system incorporating its MPP architecture in the early 1980s and has spent the last *four decades* expanding and improving its technology, generating substantial trade secrets and other intellectual property in the process. In 1983, Teradata received the seminal patent on first-generation MPP design for data analytics (hardware-based parallelism; U.S. No. 4,412,285, “Multiprocessor Interconnection System and Method”). Eleven years later it also received the seminal patent on second-generation MPP design (software-based parallelism; U.S. No. 5,640,584, “Virtual Processor Method and Apparatus for Enhancing Parallelism and Availability in Computer Systems”), technology that continues to distinguish Teradata’s systems from those of its competitors today. It is access to this experience and innovation that SAP sought and received through the joint venture with Teradata and then ultimately unlawfully used to Teradata’s detriment, both through its development and release of HANA and through its subsequent attempts to monopolize the EDAW Market, which encompasses SAP’s customers in the Top-Tier ERP Applications Market (defined below).

21. In the 25 years since its early breakthroughs, Teradata has continued in its role as the pioneer for massively parallel analytics, developing and patenting technologies that remain the gold standard in a wide variety of technology areas. For example, in 2012, Teradata released its Unified Data Architecture (UDA), which allows a customer to collect and analyze all of its data no matter the type (including, *e.g.*, traditional “structured” data along with “unstructured” data like audio and video content) in a single analytical environment. In 2017, Teradata released IntelliCloud, which provides EDAW capabilities in a secured cloud-services environment. Today, Teradata has over 10,000 employees globally, including over 1450 employees based in California at Teradata’s San Diego, Santa Clara, San Francisco, and El Segundo facilities. On June 6, 2018, Teradata announced that it will be moving its headquarters from Miamisburg, Ohio, to its campus in San Diego.

22. Teradata serves the world’s largest enterprise customers operating in a diverse range of industries. Its customers include all 17 of the top telecommunications companies, 17 of the top 20 global and commercial savings banks, 16 of the top 20 travel and transportation companies, 15 of the top 20 global retailers, 10 of the top 15 pharmaceutical companies, and 12



1 of the top 20 manufacturing companies, among others. Teradata also serves a variety of  
2 customers in the nonprofit and public sectors. Teradata's customer base primarily consists of  
3 companies with data collected from millions of daily transactions from many data sources across  
4 a wide variety of enterprise applications, business lines, and geographic locations. These  
5 companies present the most complex data-analytics challenges and require the scalability and  
6 sophistication for which Teradata's EDAW technologies were specifically designed.

7 23. Since the release of its first database product in the early 1980s, Teradata and its  
8 products repeatedly have been recognized as standouts in the high-tech industry and within the  
9 business community in general. Fortune magazine named Teradata's database system its  
10 "Product of the Year" in 1986, and Gartner named Teradata the "Leader in Commercial Parallel  
11 Processing" in 1994. Intelligent Enterprise magazine named Teradata the best global data  
12 warehouse and business intelligence appliance vendor in 2007, and Forrester Research rated  
13 Teradata number one in its first-ever enterprise data warehousing report in 2009. Forbes named  
14 Teradata one of the world's 100 most innovative companies in 2013, and just a few months ago  
15 Thompson Reuters named Teradata a Top 100 Global Technology Leader. Finally, the  
16 Ethisphere Institute consistently has recognized Teradata as one of the World's Most Ethical  
17 Companies, awarding this distinction to Teradata in 2018 for the ninth consecutive time.

18 **B. Teradata Scrupulously Protects Its Intellectual Property.**

19 24. Over its nearly 40-year history of innovation, Teradata has developed extensive  
20 intellectual property related to its database and data-analytics technologies, obtaining more than  
21 1000 patents. Teradata's intellectual property includes confidential techniques related to the  
22 ingestion and management of massive amounts of data and the concurrent execution of large  
23 numbers of highly complex analytical queries against that data. Teradata safeguards these  
24 optimization techniques, which provide Teradata a significant advantage over its competitors, as  
25 among its most valuable and confidential information.

26 25. Teradata's proprietary and highly valuable data-analytics techniques are not  
27 known outside the company except under strict duties of non-disclosure, and Teradata  
28 scrupulously maintains these techniques in confidence through many safeguards, including but



1 not limited to non-disclosure agreements, confidentiality provisions, password protection, express  
2 licenses for end users, and secure infrastructure.

3 26. When Teradata was initially spun-off from its parent company NCR in 2007, each  
4 employee was required to sign a contract containing a strict non-disclosure provision. When any  
5 new employee joins Teradata, that employee is required to sign an agreement acknowledging the  
6 duty to keep strictly confidential and treat as trade secret any information learned during the  
7 course of employment related to the business or activities of Teradata. The employment  
8 agreement also states that, upon termination, the employee will comply with this non-disclosure  
9 agreement, and will surrender any Teradata information in the employee's possession upon  
10 leaving the company. Additionally, upon their departure from Teradata, employees are required  
11 to sign exit agreements reminding them they have a continuing obligation not to use or disclose,  
12 or directly or indirectly aid others in using or disclosing, any of the proprietary information or  
13 data they may have learned while employed at Teradata.

14 27. Teradata also requires third-party contractors, distributors, vendors, and  
15 development partners to enter into non-disclosure agreements that strictly limit the use and  
16 disclosure of any confidential information obtained in the course of their relationships with  
17 Teradata. In those agreements, Teradata controls what resources a given partner or contractor can  
18 access, how they can be accessed (often via specific passwords), and which specific personnel  
19 can access those resources.

20 28. Any time Teradata is considering joint development with a third party, it requires  
21 an NDA be signed before any confidential information can be exchanged as part of those initial  
22 discussions. With respect to end users, Teradata protects its intellectual property by providing  
23 access to its software tools and technical information only to persons who agree to the terms of  
24 Teradata's end-user license agreements. Teradata also employs secure computing infrastructure  
25 for its source code, design documents, and other proprietary and confidential information.

26 29. Teradata owns the copyright in the software associated with Teradata Database.  
27 U.S. Copyright Registration Numbers for Teradata Database are provided below:  
28

Work	Case Number	Effective Date of Registration (Date Submitted)	Registration Number
Teradata Database 12.0	1-6668876091	June 19, 2018	TXu 2-091-495
Teradata Database 13.0	1-6668993302	June 19, 2018	TXu 2-091-496
Teradata Database 13.1	1-6668993339	June 19, 2018	TXu 2-091-497
Teradata Database 14.0	1-6668993374	June 19, 2018	TXu 2-091-498
Teradata Database 14.1	1-6668993409	June 19, 2018	TXu 2-091-500
Teradata Database 15.0	1-6668993464	June 19, 2018	TXu 2-091-501
Teradata Database 15.1	1-6668983602	June 19, 2018	TXu 2-091-493

**C. Teradata and SAP Enter into the Bridge Project.**

30. SAP is the dominant provider of ERP (Enterprise Resource Planning) software (“ERP Applications”) in the market comprised of the world’s most complex, large-scale business enterprises (the “Top-Tier ERP Applications Market”). This market is more fully defined in Paragraphs 59 through 61 below. ERP Applications allow companies to gather and manage the data required to conduct their day-to-day operations across many aspects of the business enterprise, including sales and inventory transactions, financial and accounting transactions, human-resource transactions, and the like. ERP Applications typically are designed around a relational database that acts as a common repository for all the data used and managed by the ERP Applications in carrying out the entity’s business transactions. This database, known as a “transactional database,” ensures that all users of the entity’s ERP Applications have access to a uniform and current set of data, so that a given transaction will yield the same result no matter which of the users performs the transaction. Examples of commonly used transactional databases are the Oracle Database, IBM Db2, and Microsoft SQL Server.

31. Teradata traditionally has focused its development activities on the EDAW products and services consumed by the same complex, large-scale enterprises that form the Top-Tier ERP Applications Market (the “EDAW Market”). SAP, on the other hand, has traditionally focused on ERP Applications and, to a lesser extent, “business intelligence” (BI) tools (including the SAP BW tool) that allow ERP users to generate reports using their ERP-derived data. In the mid-2000s, SAP’s Top-Tier ERP Applications customers were fully reliant on third parties like Teradata to provide the analytical database and data-analytics backbone necessary to meet their

1 EDAW needs. Recognizing the potential synergies in integrating and marketing their  
2 technologies to a common customer base, in 2008 Teradata and SAP entered into a partnership to  
3 develop a solution that would “bridge” SAP’s Top-Tier ERP Applications customers to an  
4 analytic solution based on Teradata’s market-leading EDAW product, which would be accessed  
5 through the interface of the SAP BW tool (the “Bridge Project”).

6 32. Teradata sharply limited SAP’s use of information, software, tools, and other  
7 materials that it provided during the Bridge Project. The parties entered into a mutual  
8 non-disclosure agreement (MNDA) in December 2008 and a further MNDA in June 2009. These  
9 NDAs limited the disclosure and use of the parties’ “Confidential Information,” including both  
10 parties’ “software and related documentation,” stating that such information “shall not be  
11 reproduced in any form except as required to accomplish the intent of this Agreement.” On  
12 February 27, 2009, SAP and Teradata entered into a Software Development Cooperation  
13 Agreement (SDCA) and a Technology Partner Agreement (TPA) related to the Bridge Project.  
14 These agreements restricted disclosure of the parties’ confidential information and included  
15 prohibitions on reverse engineering.

16 33. A key challenge of the Bridge Project was to ensure fast and efficient  
17 interoperation between SAP’s front-end systems and Teradata’s EDAW product. Subject to the  
18 strict non-disclosure agreements that limited the use of any confidential Teradata information to  
19 the Bridge Project only, Teradata shared its valuable trade secret and proprietary techniques for  
20 optimizing the integration and analysis of massive amounts of data at an enterprise-wide scale.  
21 Using those techniques, Teradata and SAP succeeded in jointly developing and putting into  
22 production an integrated solution called “Teradata Foundation,” which would enable SAP’s  
23 Top-Tier ERP Applications customers to use Teradata as the underlying analytical database for  
24 EDAW activities. SAP and Teradata brought Teradata Foundation to market, as they installed  
25 and finalized Foundation on site at one major customer’s facilities and developed business  
26 opportunities for numerous other potential customers, a business projected at hundreds of millions  
27 of dollars annually.  
28

**D. Teradata Shares Trade Secret Information with SAP**

34. During the Bridge Project, subject to the terms of the parties' agreements, Teradata provided to SAP proprietary, confidential, and trade secret information acquired through decades of research and development. Upon information and belief, SAP improperly used this information to develop its own EDAW products. The intellectual property that Teradata made available to SAP in connection with the Bridge Project is discussed below, and a detailed list of trade secrets is attached as sealed Exhibit A.

**1. Teradata Provides SAP with Confidential Orange Books**

35. As part of the Bridge Project, Teradata permitted SAP to access Teradata's proprietary technical manuals called "Orange Books," which contain extensive trade secret information concerning Teradata's MPP database technology. Teradata has always taken measures to protect the secrecy of the trade secrets contained in the Orange Books, including limiting their dissemination to customers and partners, and requiring that each customer and partner sign a non-disclosure agreement before accessing the Orange Books. The Orange Books themselves plainly state that the documents are intended for use by Teradata customers and dissemination or copying of the documents without Teradata's consent is prohibited. Nearly all of the Orange Books include the following notice or similar language: "[This document] may only be used by you for the exclusive purpose of facilitating your internal Teradata-authorized use of the Teradata product(s) described in this document to the extent that you have separately acquired a written license from Teradata for such product(s)." Additionally, nearly all of the Orange Books include "Teradata Confidential" at the bottom of each page. Teradata prohibits readers of the Orange Book from using its contents for any activities that were not authorized by Teradata.

36. The Orange Books provided to SAP included numerous trade secrets pertaining to MPP databases that Teradata developed over its many years as the world's leading supplier of MPP database systems. This technology included, for example, novel techniques for managing database statistics, partitioning data across multiple processors, cost-based query optimization, data compression, and other MPP database technologies. Teradata's long experience developing

1 MPP databases gave Teradata unique insight into the challenges of designing and operating such  
2 systems, for which Teradata developed optimal solutions. Teradata's insights and know-how are  
3 reflected in its confidential Orange Books. For instance, the Orange Books describe techniques  
4 for managing database statistics that are uniquely applicable to the complex environment of MPP  
5 databases. Likewise, methods discussed in the Orange Books for data compression and cost-  
6 based optimization are tailored for use in an MPP environment.

7 37. In contrast with Teradata's pioneering experience in the MPP database field over  
8 decades, SAP had never purported to offer an MPP database prior to the introduction of HANA.  
9 Accordingly, Teradata's Orange Books and other proprietary information would have been  
10 immensely valuable to SAP in its efforts to develop its own competing MPP database. This  
11 information would have given SAP a short-cut to avoiding years of development work. By  
12 studying Teradata's insights into and solutions to the design and operational challenges of MPP  
13 databases, SAP would have saved itself the long, hard work of independently developing its own  
14 MPP technology. Instead of having to figure out optimal solutions for database statistics, data  
15 partitioning, cost-based query optimization, and other technical challenges of MPP databases,  
16 SAP could simply have helped itself to Teradata's accumulated wisdom on these technical  
17 subjects. Upon information and belief, that is precisely what SAP did—it utilized proprietary  
18 techniques learned from Teradata's Orange Books to develop SAP's own EDAS products,  
19 without authorization from Teradata, thereby advancing the development and commercialization  
20 of HANA by many years.

## 21 2. Teradata Shares Other Trade Secret Information with SAP During 22 the Bridge Project

23 38. Teradata engineers also collaborated with SAP during the Bridge Project in the  
24 highly technical areas of product testing, evaluation, and development related to the creation of  
25 the integrated solution. During these activities, Teradata's engineers provided extensive trade  
26 secret information on the design and optimization of Teradata's MPP architecture and the  
27 execution of analytical queries in such systems. This information was subject to various  
28 confidentiality and limited use provisions in the agreements identified in paragraph 32 above.

1 Thus, SAP was not permitted to use the information learned from Teradata engineers for activities  
2 outside the Bridge Project.

3 39. Teradata engineers provided SAP with trade secrets to advance the Bridge Project  
4 and yield a workable integrated solution that could be marketed and sold. SAP partnered with  
5 Teradata because SAP did not understand the MPP architecture or how to design an analytical  
6 database that could efficiently handle massive amounts of information. As part of the  
7 collaboration among the parties, Teradata engineers identified certain inefficiencies in SAP's  
8 software that prevented SAP from leveraging the power and parallel-processing capabilities of the  
9 Teradata Database. In a series of emails from 2008 to 2010 between SAP and Teradata  
10 employees, for example, Teradata identified the causes of these inefficiencies and suggested  
11 solutions based on its own decades-long experience with MPP databases and the confidential and  
12 proprietary solutions it implemented in its own product offerings. These solutions included  
13 Teradata trade secrets related to restructuring database queries to take advantage of an MPP  
14 architecture handling massive amounts of information. The solutions also involved reducing  
15 inefficiencies associated with inaccurate statistics, improved techniques of cost-based query  
16 optimization, and improved architecture of virtual processors. In addition, Teradata conveyed  
17 numerous other trade secrets to SAP during the Bridge Project, including innovative techniques  
18 for optimizing the speed and efficiency of (a) the concurrent execution of many analytical queries  
19 and (b) the distribution of vast amounts of data and complex analytical workloads across  
20 massively parallel processing units.

21 40. Teradata provided protected intellectual property to SAP in other ways during the  
22 Bridge Project. For example, Teradata conducted training sessions on Teradata's database  
23 solutions for SAP developers working on the Bridge Project and the training sessions were  
24 subject to confidentiality agreements. Teradata also provided SAP with access to its database  
25 systems for experimental and research purposes in connection with the Bridge Project. For  
26 example, Teradata installed its database system at SAP's COIL facility in Palo Alto, California,  
27 and at SAP's research center in Walldorf, Germany. Teradata also provided SAP's developers  
28 with access to Teradata Express, a fully functional trial version of Teradata Database, pursuant to

1 Teradata's standard end user license. Among other things, SAP's use of the Teradata Database  
2 installations at COIL and in Walldorf and its use of Teradata Express were conditioned on SAP's  
3 agreement not to perform any reverse-engineering or to disclose any test or evaluation results  
4 without Teradata's prior written consent.

5 **E. SAP Quickly Develops and Releases HANA, SAP's Flagship Database**  
6 **Offering, by Misappropriating Teradata's Intellectual Property.**

7 41. While it was actively partnering with Teradata on the Bridge Project, SAP also  
8 was developing its own competing database solution—SAP HANA. In the summer of 2009, just  
9 months after the Bridge Project formally began, SAP co-founder Hasso Plattner and then-CTO  
10 Dr. Vishal Sikka announced their goal of revitalizing SAP's lackluster and outdated product  
11 offerings by developing a new, faster database architecture. Dr. Sikka quickly restructured SAP's  
12 engineering teams to develop and deploy SAP HANA in less than a year, an extremely short time  
13 frame for a project of such magnitude.

14 42. In November 2010, Dr. Sikka announced at SAP's annual user conference,  
15 SAPHIRE, that SAP had begun shipping its HANA product. In May 2011, again at SAP's  
16 SAPHIRE conference, an SAP customer demonstrated HANA for SAP BW to create what  
17 purported to be an EDAW-type environment. SAP's CTO described this version of SAP HANA  
18 as incorporating a "massively parallel" database "with various data processing engines"—a  
19 similar type of database architecture as that pioneered by Teradata and used in Teradata Database.  
20 SAP announced general availability of SAP HANA in June 2011.

21 43. Two months later, on August 19, 2011, after the parties had been working on the  
22 Bridge Project for nearly three years, SAP unilaterally terminated the project and stopped  
23 supporting, selling, or marketing Teradata Foundation. Just days later in September 2011, SAP  
24 announced HANA for SAP BW, which combined front-end software with the back-end database  
25 engine (HANA) for the purpose of creating an EDAW solution—the same thing Teradata  
26 Foundation was intended to achieve.

27 44. Initial success of HANA (including HANA for SAP BW) was limited, in part  
28 because, despite SAP's statements to the contrary, BW was ill-equipped to generate reports using



1 data from any other source besides SAP's ERP Applications. Nonetheless, SAP HANA use  
2 eventually took off (aided by SAP's anticompetitive conduct discussed below), with HANA  
3 revenue reaching \$2 billion by 2016. SAP HANA has also led to hundreds of millions of dollars  
4 in additional licensing sales. Dr. Sikka was lauded in the industry as the "father" and  
5 "mastermind" of SAP HANA, and was credited with reversing SAP's stagnant product offerings.

6 45. Like SAP and Teradata's jointly developed solution, SAP's HANA product  
7 combines a database solution with integrated software to perform data analytics. HANA purports  
8 to serve as both types of database required by the large-scale, complex enterprises that make up  
9 the Top-Tier ERP Applications Market and the EDAW Market: (1) a transactional database that  
10 allows for the processing of transactional data in real-time; and (2) EDAW functionality that SAP  
11 claims can enable enterprise analytics similar to those offered by Teradata. Thus, with HANA  
12 (and BW on HANA), SAP now positions itself as a direct competitor in the EDAW market,  
13 which Teradata essentially created, and in which Teradata has operated for almost forty years.

14 46. In developing HANA, SAP faced the same challenges which Teradata and SAP  
15 faced during the Bridge Project and which Teradata engineers solved — the speed, efficiency,  
16 and effectiveness of interoperation between SAP's front-end software and an MPP database  
17 engine as it attempted to store and analyze massive amounts of data. On information and belief,  
18 to overcome this challenge during HANA development, the HANA developers, at the direction of  
19 Dr. Sikka, utilized the same solution developed by Teradata's engineers and developers during  
20 the Bridge Project — using Teradata's trade-secret techniques for optimizing the execution of  
21 analytical queries and the speed of data storage and retrieval in large-scale databases.

22 47. Among other instances of misappropriation, SAP used Teradata trade secrets to  
23 optimize the processing of certain Open SQL queries for large volumes of data, enabling  
24 improved performance speed and opportunities for parallel processing and other enhancements on  
25 SAP's HANA. On information and belief, key SAP employees, including Dr. Sikka, the so-  
26 called "mastermind" of HANA, were aware of and supported SAP's misappropriation of  
27 Teradata's trade secrets during the development of HANA.  
28

1           48.     SAP also was able to carry out this repurposing because it staffed its HANA  
2 development team with veterans of the Bridge Project. In some cases, SAP engineers were  
3 working on both HANA development and the Bridge Project simultaneously, despite the  
4 requirements in SAP and Teradata's agreements that confidential Teradata information provided  
5 to SAP for the Bridge Project was to be used only for that purpose. In addition, a number of  
6 Teradata employees working on the Bridge Project left Teradata and went to SAP, where they  
7 worked on HANA, despite agreeing not to disclose any confidential and trade secret information  
8 learned during their time at Teradata. At the time, Teradata was not aware of this cross-  
9 pollination between SAP's Bridge Project and HANA development teams.

10           49.     In addition, on information and belief, SAP developers further infringed  
11 Teradata's copyrighted software, Teradata Express, which includes a fully functional copy of  
12 Teradata Database, by reverse engineering the software in violation of Teradata's end-user  
13 license. Specifically, Teradata has reason to believe that SAP engineers downloaded Teradata  
14 Express and ran debugging or other tools against the software to circumvent Teradata's  
15 protections and uncover Teradata confidential and proprietary techniques for database processing  
16 and analytics.

17           **F.     Teradata Discovers SAP's Theft of Teradata's IP.**

18           50.     As Teradata would later learn (well after SAP's termination of the Bridge Project),  
19 SAP was able to develop and bring HANA to market so quickly because SAP stole and misused  
20 Teradata's intellectual property. On September 4, 2015, *Der Spiegel* published an article  
21 reporting that an internal SAP auditor (later identified as Dr. Thomas Waldbaum) concluded that  
22 SAP misappropriated proprietary and confidential information from Teradata that SAP engineers  
23 obtained during the Bridge Project.

24           51.     The article explained that the auditor dug deep "into the evolutionary history of  
25 HANA" and "focuse[d] on the Bridge Project." In October 2012, according to *Der Spiegel*,  
26 Dr. Waldbaum conducted interviews with SAP developers who worked with Teradata on the  
27 Bridge Project. Although SAP executives initially met with Dr. Waldbaum to hear his  
28 allegations, SAP's attorneys terminated their investigation by May 2013.

1           52.     In January 2014, Dr. Waldbaum drew renewed attention to the issue, sending an  
2 email to SAP's supervisory board stating that SAP improperly used the intellectual property of a  
3 number of competitors, including Teradata, in its HANA product, and demanding that SAP take  
4 action. On February 12, 2014, SAP fired Dr. Waldbaum. Teradata has reason to believe  
5 Dr. Waldbaum has knowledge of additional information demonstrating SAP's theft of Teradata's  
6 intellectual property.

7           53.     In May 2014, less than two months after Dr. Waldbaum's termination, Dr. Sikka  
8 left SAP for "personal reasons." Various media outlets noted that Dr. Sikka's departure was  
9 sudden and unexpected, as the industry considered him a "star executive" who had been the "face  
10 of SAP" and "a potential future leader of the company." Neither SAP nor Dr. Sikka has  
11 explained the reasons for his departure.

12           54.     Despite being in possession of Dr. Waldbaum's audit reports for nearly three  
13 years, SAP concealed the investigation and its findings from Teradata and the public until it was  
14 exposed by *Der Spiegel* in September 2015. As a result of *Der Spiegel*'s probe and the resulting  
15 article, Teradata began investigating these allegations, which led to the discoveries culminating in  
16 this lawsuit. For example, Teradata learned that several SAP employees working on the Bridge  
17 Project, who therefore had access to and used confidential Teradata information, were  
18 simultaneously working on HANA. Later, many of these employees would be assigned to  
19 HANA full-time. Teradata also learned that SAP had incorporated Teradata's proprietary and  
20 confidential information into HANA, solving HANA's speed and efficiency problems using the  
21 same solutions that Teradata employees developed using Teradata's trade-secret techniques  
22 during the Bridge Project.

23           55.     Unbeknownst to Teradata at the time, SAP stole Teradata's trade secrets related to  
24 optimizing data storage and retrieval (including query execution) in an MPP environment,  
25 without authority incorporated them into HANA, and otherwise used them to aid development of  
26 HANA, which has become SAP's flagship database product. Unlike Teradata, which has spent  
27 four decades developing its EDAW technologies, SAP managed an initial release of its competing  
28 HANA product after spending mere months in development. It has become clear to Teradata that

1 SAP was able to go to market so quickly only because SAP entered into an agreement with  
2 Teradata under the false pretense of integrating the two companies' technologies, stole key  
3 Teradata trade secrets, and then incorporated them into and used them to develop HANA.  
4 Despite SAP's public statements denying any wrongdoing, SAP's misuse has continued unabated  
5 to the present.

6 56. SAP's theft of Teradata's intellectual property has irretrievably harmed Teradata.  
7 By unilaterally terminating the Bridge Project and ceasing support for Teradata Foundation in  
8 favor of HANA, SAP killed an important line of business for Teradata—one in which Teradata  
9 had invested considerable time, effort, and resources. SAP's actions also have effectively  
10 blocked Teradata from developing relationships with the SAP customers that could most benefit  
11 from Teradata's EDAW products, and have otherwise hampered Teradata's ability to sell and  
12 market its own database management and business analytics technologies. The harm to Teradata  
13 has only increased as a result of SAP's exploitation of its dominance in the market for Top-Tier  
14 ERP Applications and its improper use of HANA in an attempt to eliminate Teradata as a  
15 competitor (discussed below).

16 57. SAP, on the other hand, has capitalized on its unlawful use of Teradata's IP and its  
17 anticompetitive conduct to the tune of billions of dollars in revenue. Just two years after the  
18 launch of HANA, SAP's estimated annual revenue for HANA alone was over \$1 billion, and SAP  
19 estimates it had over 18,000 HANA customers in 2017. In February 2018, SAP estimated that  
20 over 50% of its ERP client base would be using HANA by 2020. Recent industry research  
21 indicates that 60% of SAP's Top-Tier ERP Applications customers, and perhaps in excess of  
22 80%, are employing or preparing to employ HANA. Furthermore, SAP has generated billions of  
23 dollars in additional revenue from the SAP applications that HANA users have also purchased.

24 **G. SAP's Unlawful Efforts to Restrain Competition.**

25 58. As outlined above, HANA is the product of theft. However, rather than merely  
26 attempting to compete on the merits with a tainted product, SAP has engaged in conduct designed  
27 to eliminate competition in the EDAW market for SAP Top-Tier ERP Applications customers.  
28 The growth and revenue information cited above is not the result of SAP's business acumen,

innovation, or skill, but instead is the direct result of SAP's anticompetitive efforts. SAP has carried out its plan through a previously undisclosed change to its long-standing sales practices that leaves its locked-in Top-Tier ERP Applications customers with little choice but to adopt HANA to the exclusion of Teradata's EDAW products: tying upgrades of customers' ERP Applications to customers' adoption of HANA (while ending support for older versions of ERP Applications). On information and belief, SAP has also begun significantly restricting Teradata's ability to access customers' SAP ERP data stored in HANA (which is necessary for the functional use of Teradata's EDAW products), thereby ensuring the success of its tying arrangement in coercing customers to adopt HANA.

# **1. Relevant Markets and SAP's Market Power.**

59. As outlined above, there is a separate, relevant product market for ERP Applications, such as SAP's S/4HANA and SAP's predecessor ERP programs, used by large-scale, complex enterprises (the "Top-Tier ERP Applications Market").

60. Market participants recognize the distinct needs of these types of customers and may refer to ERP Applications for customers with the above characteristics as "Tier 1" ERP Applications. As it is understood in the industry, the customer base for "Tier 1" ERP Applications generally consists of the largest companies in the world, such as Fortune 1000 companies in the United States, FTSE 100 companies in Europe, and similarly-sized privately-held entities.

61. Top-Tier ERP Applications constitute a relevant product market because these products provide unique, specialized tools and functionality at a scale that is designed to meet the needs of customers with extremely high data volumes and complex sources of data. These customers possess some or all of the following characteristics: (1) millions of transactions and/or data-generating events on a daily basis; (2) multiple and distinct business lines; (3) diverse geographic locations for operations; (4) multiple and disparate sources and formats of data related to distributors, suppliers, competitors, customers, and/or employees; and (5) revenues typically exceeding \$1 billion. These characteristics result in customer demand for highly customizable and flexible software that is readily scalable.

1           62.     Given the critical importance of a customer's ERP Applications to its business,  
2 customers of Top-Tier ERP Applications will migrate to the most recent version of their  
3 provider's ERP Applications to have access to the latest features and functionality, most robust  
4 support, and most recent security and software updates. Where, as here, a Top-Tier ERP  
5 Applications vendor announces the end, or "sunset," of prior versions of its ERP Applications,  
6 Top-Tier ERP Applications customers have no choice but to upgrade.

7           63.     There are no reasonable or adequate economic substitutes for upgrades of SAP  
8 ERP Applications for the vast majority of Top-Tier ERP Applications customers because they are  
9 locked-in to their current ERP application provider as a result of the information disparity at the  
10 time of purchase and enormously high costs of switching, as set forth below.

11           64.     Customers are unable to perform detailed cost analyses for the lifecycle of their  
12 ERP Applications at the time of purchase. It is difficult for customers to obtain the necessary  
13 information among competing ERP Applications with respect to maintenance costs, upgrade  
14 timelines (or the costs of such upgrades), as well as any disruption in service that may occur over  
15 the life of the product. Such pre-purchase analyses also cannot account for any post-sale changes  
16 in policy or practice such as SAP's changes set forth below. This creates an information disparity  
17 between Top-Tier ERP Applications customers and providers.

18           65.     Severe switching costs associated with changing a customers' Top-Tier ERP  
19 Applications provider effectively preclude the vast majority of customers from changing their  
20 ERP Applications. These switching costs include both direct financial costs and indirect costs at  
21 every stage of the switching process. Initially, Top-Tier ERP Application customers devote  
22 substantial resources to evaluating ERP Applications. This process can take several years to  
23 complete, given the need to thoroughly examine the functionality of ERP Applications and  
24 measure that functionality against the unique needs of a particular customer.

25           66.     After the evaluation process, customers spend significant sums on the actual  
26 licensing, development, and implementation of ERP Applications within their specific business  
27 environments. An individual customer may spend tens of millions of dollars on its ERP  
28

1 Applications in a given year, depending upon the complexity and customization of its ERP  
2 Applications, the number of users, and other factors.

3 67. Implementing ERP Applications involves extensive costs and substantial devotion  
4 of resources, including but not limited to training employees on how to properly use those ERP  
5 Applications, troubleshooting problems, and realigning business practices with the selected  
6 provider. In addition to employee-focused change management, implementation involves major  
7 costs associated with migrating data, testing and deployment of specific software developed for  
8 each customer, and technical implementation that occurs during this time period.

9 68. Accordingly, changing Top-Tier ERP Applications providers is not a task  
10 completed in days or weeks but over a period of months or years, from the date a license  
11 agreement is signed, through development, testing, and training, to the actual deployment.

12 69. These switching costs, coupled with the information disparity between provider  
13 and customer as to future changes in policy or practice, mean that Top-Tier ERP Applications  
14 customers are locked-in to their current providers and thus may be exploited by a change in  
15 policy or practice from their provider that was not known at the time customers made their initial  
16 choice of ERP Applications provider.

17 70. SAP has held and continues to hold a dominant position in the Top-Tier ERP  
18 Applications Market, and possesses a market share that ranges, on information and belief, from  
19 60% to 90% depending on the industry in which the customer operates. Oracle is the only other  
20 significant competitor for these Top-Tier customers, but industry research indicates that Oracle's  
21 market share has historically been less than SAP's with respect to the number of installed Top-  
22 Tier ERP Applications customers.

23 71. As outlined above, there is also a separate relevant product market for EDAW  
24 products (the "EDAW Market"), which enable Top-Tier ERP Applications customers to retain,  
25 and more importantly to perform complex analytical operations on, vast amounts of data from a  
26 wide variety of data streams (*i.e.*, the companies' ERP Applications and numerous other sources).

27 72. EDAW products are separate and distinct products from ERP Applications.  
28 EDAW products are also separate and distinct products from transactional databases, which are



1 used primarily for the storage and processing of transactional data. EDAW products have  
2 historically been designed for their specialized purpose and sold separately from ERP  
3 Applications and transactional databases, and each of these three products serves different  
4 functions for customers.

5 73. Teradata's EDAW products include tools that were developed to copy a  
6 customer's ERP Applications data from the customer's transactional database for incorporation  
7 into Teradata's EDAW system, where a customer can run complex analytical functions against all  
8 the data the customer collects from its business enterprise, including its ERP data and data from  
9 other sources. Teradata's EDAW tools also allow for extraction of historical data from the  
10 customer's transactional system and storage of that historical data in the EDAW system. As a  
11 general rule, ERP Applications like SAP's do not perform well when historical data is kept in the  
12 underlying transactional database, and use of an EDAW system allows the customer to purge the  
13 data from the transactional system and warehouse it elsewhere.

14 74. For all Teradata customers, regardless of the transactional database a customer is  
15 using, Teradata's tools copy ERP Application data from the transactional database by reading the  
16 transaction-log files maintained in that database. The Teradata tools do this with a read-only  
17 operation from the transaction log and do not manipulate the actual data within the transactional  
18 database in any way. These tools are designed to understand the structure of the stored data and  
19 copy it in a way that is accurate/consistent with the customer's ERP Applications but without the  
20 risk of corrupting the integrity of the ERP data. Teradata then incorporates a customer's ERP  
21 data with data from other sources in its EDAW system to perform a wide variety of analytical  
22 functions. Teradata utilizes its software on a variety of transactional databases deployed with a  
23 variety of ERP Applications.

24 75. Most Top-Tier ERP Applications customers also use EDAW products.  
25 Multinational companies with diverse product lines, complex supply chains, and large workforces  
26 require the ability to quickly analyze and understand historical and incoming real-time data to  
27 inform current and future business decisions. EDAW products are indispensable for these  
28 companies. SAP itself has recognized the evolving analytic needs of these companies, which

1 influenced SAP to engage Teradata, under the guise of a partnership, in order to steal Teradata's  
2 intellectual property and develop a competing EDAW product.

3 76. SAP developed HANA to function as both a transactional database for managing  
4 ERP Applications data and an analytical database with EDAW functionality. Teradata Database  
5 is designed primarily for use as an EDAW product but can also process analytical workloads with  
6 transactional components. Thus, SAP has positioned itself as a direct competitor to Teradata in  
7 the EDAW Market within its Top-Tier ERP Applications customer base. However, HANA also  
8 serves as a potential source of data (specifically, a customer's SAP ERP data) for its Top-Tier  
9 ERP Applications customers who want the performance and linear-scalability offered only by  
10 Teradata's EDAW products.

11 77. As discussed above, to copy the data generated by a specific application (such as  
12 an ERP Application), EDAW products require software specifically designed for and tailored to  
13 that application. Providers of EDAW products make substantial investments in developing  
14 products that can successfully and reliably copy a customer's data derived from a specific ERP  
15 Application. The software used to accurately replicate data derived from a provider's ERP  
16 Applications, such as SAP's ERP Applications, is not reasonably interchangeable with software  
17 used to copy data derived from another provider's ERP Application absent significant  
18 development work.

19 78. Because EDAW products serve as "back-end" systems for the storage and analysis  
20 of data from various streams across the entire business enterprise, these products are dependent  
21 upon other sources, such as ERP Applications, to obtain the data that is then uploaded and  
22 analyzed. EDAW products providers, such as Teradata, must be able to access these data sources  
23 in a way that permits the efficient and accurate copying of data in order to serve as a viable option  
24 for their customers. This dependence of EDAW products upon other sources of data and the need  
25 to develop the ability to efficiently and accurately obtain that data constitute barriers to entry, and  
26 are particularly acute here, where SAP's anticompetitive conduct effectively prevents other  
27 companies from offering viable EDAW products for SAP's Top-Tier ERP Applications  
28 customers.

1           79.     The relevant geographic markets are the sale of Top-Tier ERP Applications and  
2     EDAW products on a worldwide basis, given the multi-national nature of the market participants,  
3     as further described herein.

4                   **2.     Historically, SAP's Top-Tier ERP Applications Customers Could**  
5                   **Freely Select Their EDAW Product of Choice.**

6           80.     SAP's Top-Tier ERP Applications customers historically were able to use the  
7     EDAW products of their choosing, knowing that their EDAW product could access and obtain  
8     data that was created in their SAP ERP Applications and then stored in a transactional database.  
9     SAP previously did not offer a competitive EDAW product or transactional database with the  
10    requisite functionality and scalability for SAP's Top-Tier ERP Applications customers. Thus, a  
11    Top-Tier ERP SAP Applications customer could select a separate transactional database vendor  
12    other than SAP and select a separate EDAW product vendor, such as Teradata.

13          81.     This arrangement permitted SAP's Top-Tier ERP Applications customers to create  
14    ecosystems that best fit their needs. For example, historically, nearly all of the customers who  
15    used SAP's ERP Applications would run the applications on an Oracle, IBM, or Microsoft  
16    transactional database, and a very high percentage of those Top-Tier ERP Applications customers  
17    would use Teradata for their EDAW needs.

18          82.     Teradata made substantial investments to create software that could reliably and  
19    accurately take extremely large amounts of a customer's SAP-derived data and copy it into  
20    Teradata's systems to perform data analytics within this ecosystem. For example, after SAP  
21    ended the Bridge Project in 2011, Teradata was forced to find other ways to meet consumer  
22    demand for accessing SAP-derived data for use in Teradata's EDAW systems. Teradata spent  
23    tens of millions of dollars to acquire a company with existing technology in this area, and  
24    invested additional millions annually to develop and optimize that solution for Teradata and bring  
25    it to market.

26          83.     SAP was aware of and supported this arrangement. SAP knew that Teradata was  
27    obtaining customers' SAP-derived data for use in Teradata's EDAW products via the replication  
28    method described above. This arrangement between SAP and Teradata was mutually beneficial

1 for both parties: Teradata's ability to efficiently access a customer's SAP-derived data increased  
2 the marketability and desirability of Teradata's EDAW products, and the ability of SAP's ERP-  
3 derived data to be integrated into Teradata's EDAW products increased the marketability and  
4 desirability of SAP's ERP Applications.

5 84. At the time HANA was first released in 2010, and up through the introduction of  
6 S/4HANA in February 2015, SAP continued to allow its ERP customers to choose their own  
7 database solutions, including their transactional databases and EDAW products. Teradata did not  
8 actively attempt to integrate with HANA during this time period because there was little to no  
9 demand for integration among its customers, who, because of the size and complexity of their  
10 database needs, were not in a position to adopt HANA.

11 85. Thus, Teradata continued to serve its SAP customers by accessing log files of  
12 customers' SAP-derived data and importing them into Teradata's systems for storage and  
13 analysis. SAP customers made their ERP Application choices with the understanding that they  
14 would be able to use the EDAW providers that best suited their needs.

### 15 3. SAP Ties Upgrades of its ERP Application Product to HANA.

16 86. Notwithstanding SAP's theft of Teradata's intellectual property, early iterations of  
17 HANA did not have widespread success among SAP's large-scale ERP Applications customers  
18 because of HANA's deficiencies in functionality and lack of true linear-performance scalability,  
19 and because (even when operating with SAP's BW reporting tool) it was ill-suited for integration  
20 of enterprise data from third-party sources.

21 87. Following the release of HANA, mutual SAP-Teradata customers still  
22 overwhelmingly preferred Teradata's EDAW products to HANA. Even as customers began  
23 evaluating whether to adopt HANA for their transactional database functionality, customers also  
24 approached Teradata and encouraged it to develop an integration for HANA.

25 88. It stands to reason that SAP was well-aware that its largest SAP ERP customers  
26 would likely maintain their current software ecosystems rather than adopt HANA. Thus, SAP  
27 concluded the only possible way to gain widespread acceptance of HANA among its largest ERP  
28

1 Applications customers was to exert control over its locked-in ERP Applications customers and  
2 force them to adopt HANA.

3 89. SAP first carried out this plan by tying SAP ERP upgrades to the adoption of  
4 HANA. Specifically, SAP launched the latest version of its ERP Application, SAP S/4HANA, in  
5 February 2015. SAP describes S/4HANA as being “built on” and “natively written” for HANA.  
6 This marketing language attempts to conceal the fact that, in an abrupt change to past practice,  
7 SAP S/4HANA is wholly incompatible with other transactional databases and can only run on  
8 HANA. Thus, in order to upgrade to SAP’s newest ERP Application, customers must now also  
9 adopt HANA.

10 90. In addition to making S/4HANA incompatible with any other transactional  
11 database (unlike prior versions of its ERP Applications), SAP has combined the two distinct  
12 products, its ERP Application and HANA, into a single offering (in contrast to its prior sales  
13 practice of offering both products separately). Moreover, and on information and belief, SAP’s  
14 licensing agreements further restrict the ability of customers to read and copy S/4HANA ERP  
15 data to any other database.

16 91. The facts demonstrate SAP’s decision to combine these two products as a single  
17 product offering was done for the sole purpose of forcing its locked-in, Top-Tier ERP  
18 Applications customers to adopt HANA and to restrain competition. There is no technological or  
19 other justification for SAP’s drastic change in sales practice, and any such justification is greatly  
20 outweighed by the anticompetitive effect of SAP’s actions on both customers and competitors.

21 92. SAP has also announced that it is ending support for prior versions of its ERP  
22 Applications by 2025. SAP has thus forced its current customers into upgrading to S/4HANA,  
23 and, by extension, adopting HANA as their database solution, by setting a deadline on the support  
24 of their non-HANA-based SAP ERP Applications. On information and belief, SAP knows that  
25 the vast majority of its customers will not be able to evaluate, select, and implement an alternative  
26 ERP provider in this time period. These customers therefore will be forced to adopt HANA when  
27 they upgrade their ERP Application.

1           93.     SAP's conditioning ERP upgrades on customers' adoption of HANA as the  
2 database underlying their ERP Applications is a previously undisclosed reversal in its sales  
3 practices. HANA had been on the market for approximately five years before the release of  
4 S/4HANA. SAP had not previously conditioned customers' use of SAP's ERP Applications on  
5 their adoption of HANA. SAP's ERP customers could not have reasonably anticipated when they  
6 entered into their license agreements with SAP that they would be subject to such an undisclosed,  
7 future reversal of practice.

8           94.     On information and belief, SAP has made substantial efforts to force its customers  
9 to adopt HANA sooner rather than later by limiting updates for legacy SAP Applications and  
10 limiting the release of new features to S/4HANA.

11           95.     The purpose and impact of SAP's change in practice is clear: whereas previously  
12 SAP's Top-Tier ERP Applications customers were free to choose how to manage their data  
13 needs, those locked-in customers will now be forced to adopt HANA. Given the costs of  
14 licensing, implementing, and maintaining EDAW products, the vast majority of large-scale  
15 customers will have no choice but to abandon their prior EDAW providers because they cannot  
16 support dual EDAW providers. Thus, because HANA purports to offer some or all of the  
17 functionality offered by Teradata, SAP is effectively coercing its customers into leaving Teradata  
18 and adopting the full stack of SAP products (including HANA).

19           96.     On information and belief, SAP has also more recently begun significantly  
20 restricting Teradata's ability to access customers' SAP ERP data stored in HANA for use in  
21 Teradata's EDAW products, thereby ensuring that SAP's Top-Tier ERP Applications customers  
22 utilize HANA (and only HANA) for all of their database needs.

23           97.     SAP's unreasonable restrictions and limitations on Teradata's ability to access  
24 customers' SAP-derived data have heightened the success of SAP's unlawful tie at the expense of  
25 SAP's Top-Tier ERP Applications customers and Teradata.

26           98.     A number of existing Teradata customers have threatened to terminate their  
27 relationship with Teradata if Teradata cannot properly access their SAP ERP data from HANA.  
28 Moreover, prospective SAP Top-Tier ERP Applications customers will not license Teradata's

1 EDAW products if Teradata cannot properly access their SAP ERP data from HANA or will  
 2 otherwise be limited in its ability to incorporate SAP ERP data into its EDAW products.

3 99. As a direct consequence of this calculated anticompetitive conduct, Teradata has  
 4 been harmed and continues to be harmed in its business and in its ability to provide products to its  
 5 SAP Top-Tier ERP Applications customers and prospective customers who are already utilizing  
 6 SAP ERP Applications.

7 100. SAP's conduct has no legitimate business rationale and is directly contrary to the  
 8 practices of other ERP Applications and database solutions providers. These providers  
 9 understand the value-add of allowing customers to choose the software components that best suit  
 10 their needs. For example, Teradata currently provides EDAW products to customers using other  
 11 ERP Applications (including those who also offer EDAW products). As the market operates  
 12 under a more open environment, SAP is conspicuously moving in the other direction.

13 101. As the above demonstrates, after stealing Teradata's intellectual property to create  
 14 HANA, SAP has used HANA as a weapon to eliminate competition for EDAW products among  
 15 its locked-in ERP customers by forcing customers to use HANA in order to upgrade their ERP  
 16 Applications (which customers must do) while simultaneously tightening restrictions on  
 17 Teradata's ability to access customers' SAP data stored in HANA.

18 102. SAP's intentional, unfair, and unlawful attempts to eliminate competition create a  
 19 dangerous probability that SAP will succeed and, as a result, will be in a position to raise prices,  
 20 reduce innovation, unreasonably restrain customer choice, and reduce innovation and output  
 21 among its locked-in customer base.

22 **COUNT I**  
 23 **(Trade Secret Misappropriation Under the Defend Trade Secrets Act**  
 24 **(18 U.S.C. § 1836, *et seq.*))**

25 103. Teradata hereby restates and re-alleges the allegations set forth in paragraphs 1  
 26 through 102 above and incorporates them by reference.

27 104. Teradata's confidential information relating to Teradata Database, including  
 28 Teradata's proprietary and confidential techniques for optimizing the speed of data storage and  
 retrieval in large-scale, massively parallel databases, constitutes information that has independent



1 economic value because it is not generally known to, and is not readily ascertainable through  
2 proper means, by individuals or entities outside of Teradata. This confidential information is  
3 crucial to the operation of Teradata's business, and, if available to others, would enable them to  
4 compete with Teradata to Teradata's detriment. Teradata has taken reasonable measures to keep  
5 such information secret. Confidential information related to Teradata Database therefore  
6 qualifies as a trade secret within the meaning of 18 U.S.C. § 1839.

7 105. SAP disclosed, used and continues to use Teradata's trade secrets without express  
8 or implied consent, and SAP knew or had reason to know at the time of such disclosure and use  
9 that the knowledge of the trade secrets was acquired under circumstances giving rise to a duty to  
10 maintain the secrecy of the trade secrets or limit the use of the trade secrets.

11 106. Additionally, without consent, authorization, approval, or license, SAP knowingly,  
12 willingly, and unlawfully acquired, disclosed, and/or used or intended to use Teradata's trade  
13 secrets through improper means and continues to use Teradata's trade secrets without consent.

14 107. SAP's misappropriation of Teradata's trade secrets is and has been willful and  
15 malicious, such that Teradata is entitled to exemplary damages and its reasonable attorney's fees.

16 108. SAP has realized unjust profits, gains, and advantages as a proximate result of its  
17 trade secret misappropriation.

18 109. SAP will continue to realize unjust profits, gains, and advantages as a proximate  
19 result of its trade secret misappropriation as long as such misappropriation is permitted to  
20 continue.

21 110. Teradata is entitled to an injunction restraining SAP from engaging in continuing  
22 and further acts of trade secret misappropriation. Unless SAP is enjoined and prohibited from  
23 disclosing or using Teradata's trade secrets and all materials disclosing or derived from the  
24 misappropriated information are seized, SAP will continue to misappropriate Teradata's trade  
25 secrets.

26 111. As a direct and proximate result of SAP's misappropriation of Teradata's trade  
27 secrets, Teradata has suffered, and will continue to suffer, monetary loss to its business,  
28 reputation, and goodwill. Teradata is entitled to recover from SAP, in an amount to be

1 determined at trial, the damages Teradata has sustained and will sustain, for its actual losses and  
2 any unjust enrichment obtained by SAP as a result of its misappropriation of Teradata's trade  
3 secrets.

4 **COUNT II**  
5 **(Trade Secret Misappropriation Under the California Uniform Trade Secrets Act (Cal. Civil Code § 3426, *et seq.*))**

6 112. Teradata hereby restates and re-alleges the allegations set forth in paragraphs 1  
7 through 111 above and incorporates them by reference.

8 113. Teradata's confidential information relating to Teradata Database, including  
9 Teradata's proprietary and confidential techniques for optimizing the speed of data storage and  
10 retrieval in large-scale databases, constitutes information that has independent economic value  
11 because it is unknown to others and is the subject of reasonable efforts to maintain its secrecy or  
12 limit its use. It therefore qualifies as a trade secret within the meaning of California Civil Code  
13 Section 3426, *et seq.*

14 114. SAP disclosed, used and continues to use Teradata's trade secrets without express  
15 or implied consent, and SAP knew or had reason to know at the time of such disclosure and use  
16 that the knowledge of the trade secrets was acquired under circumstances giving rise to a duty to  
17 maintain the secrecy of the trade secrets or limit the use of the trade secrets.

18 115. Additionally, without consent, authorization, approval, or license, SAP knowingly,  
19 willingly, and unlawfully acquired, disclosed, and/or used or intended to use Teradata's trade  
20 secrets through improper means and continues to use Teradata's trade secrets without consent.

21 116. SAP's misappropriation of Teradata's trade secrets is and has been willful and  
22 malicious, such that Teradata is entitled to exemplary damages and its reasonable attorney's fees  
23 and costs.

24 117. SAP has realized unjust profits, gains, and advantages as a proximate result of its  
25 trade secret misappropriation.

26 118. SAP will continue to realize unjust profits, gains, and advantages as a proximate  
27 result of its trade secret misappropriation as long as such misappropriation is permitted to  
28 continue.

119. Teradata is entitled to an injunction restraining SAP from engaging in further acts of trade secret misappropriation. Unless SAP is enjoined and prohibited from disclosing or using Teradata's trade secrets and all materials disclosing or derived from the misappropriated information are seized, SAP will continue to misappropriate Teradata's trade secrets.

120. As a direct and proximate result of SAP's misappropriation of Teradata's trade secrets, Teradata has suffered, and will continue to suffer, monetary loss to its business, reputation, and goodwill. Teradata is entitled to recover from SAP, in an amount to be determined at trial, the damages Teradata has sustained and will sustain, for its actual losses and any unjust enrichment obtained by SAP as a result of its misappropriation of Teradata's trade secrets.

**COUNT III**  
**(Copyright Infringement (17 U.S.C. § 501))**

121. Teradata hereby restates and re-alleges the allegations set forth in paragraphs 1 through 120 above and incorporates them by reference.

122. Teradata owns the copyright in the software associated with Teradata Database. U.S. Copyright Registration Numbers for Teradata Database are provided below:

<b>Work</b>	<b>Case Number</b>	<b>Effective Date of Registration (Date Submitted)</b>	<b>Registration Number</b>
Teradata Database 12.0	1-6668876091	June 19, 2018	TXu 2-091-495
Teradata Database 13.0	1-6668993302	June 19, 2018	TXu 2-091-496
Teradata Database 13.1	1-6668993339	June 19, 2018	TXu 2-091-497
Teradata Database 14.0	1-6668993374	June 19, 2018	TXu 2-091-498
Teradata Database 14.1	1-6668993409	June 19, 2018	TXu 2-091-500
Teradata Database 15.0	1-6668993464	June 19, 2018	TXu 2-091-501
Teradata Database 15.1	1-6668983602	June 19, 2018	TXu 2-091-493

123. The Teradata Express simulator, which contains a fully functional version of Teradata Database, contains a substantial amount of original material that is copyrightable subject matter under the Copyright Act, 17 U.S.C. § 101 *et seq.*

124. Without consent, authorization, approval, or license, SAP knowingly, willingly, and unlawfully copied Teradata's copyrighted work, including by loading unauthorized copies of

1 Teradata Express into RAM for reverse-engineering and other purposes prohibited by Teradata's  
2 end-user license.

3 125. SAP was aware of Teradata's copyrights of its Teradata Database (and therefore  
4 its Teradata Express) software. SAP's infringement therefore was knowing and willful.

5 126. By its unlawful copying and distribution, SAP has violated Teradata's exclusive  
6 rights under 17 U.S.C. § 106.

7 127. SAP has realized unjust profits, gains, and advantages as a proximate result of its  
8 infringement.

9 128. SAP will continue to realize unjust profits, gains, and advantages as a proximate  
10 result of its infringement as long as such infringement is permitted to continue.

11 129. Teradata is entitled to an injunction restraining SAP from engaging in any further  
12 acts in violation of the United States copyright laws. Unless SAP is enjoined and prohibited from  
13 infringing Teradata's copyrights and unless all infringing products and advertising materials are  
14 seized, SAP will continue to intentionally infringe Teradata's copyrights.

15 130. As a direct and proximate result of SAP's direct willful copyright infringement,  
16 Teradata has suffered, and will continue to suffer, monetary loss to its business. Teradata is  
17 entitled to recover from SAP, in an amount to be determined at trial, the damages it has sustained  
18 and will sustain, and any gains, profits, and advantages obtained by SAP as a result of its acts of  
19 infringement and use of the copied materials. Alternatively, Teradata is entitled to an award of  
20 statutory damages for SAP's infringement of Teradata's registered copyrights.

21 **COUNT IV**  
22 **(Unlawful Tying, SAP Top-Tier ERP Applications and EDAW Products for SAP Top-Tier**  
23 **ERP Applications Customers (15 U.S.C. §§ 1, 14))**

24 131. Teradata hereby restates and re-alleges the allegations set forth in paragraphs 1  
25 through 130 above and incorporates them by reference.

26 132. SAP's Top-Tier ERP Applications (the tying product) are a separate and distinct  
27 product and market from the market for SAP's HANA product (the tied product) and the overall  
28 market for EDAW products for SAP Top-Tier ERP Applications, including Teradata EDAW

1 products. HANA unquestionably possesses EDAW product functionality, which is largely the  
2 result of SAP's theft of Teradata's intellectual property.

3 133. SAP is coercing its current Top-Tier ERP Application customers into adopting  
4 HANA, to the exclusion of other EDAW products, through a previously undisclosed reversal in  
5 practice, that is, conditioning upgrades of SAP's ERP Applications on customers' adoption of  
6 HANA.

7 134. As set forth above, SAP has sufficient economic power in the market for Top-Tier  
8 ERP Applications to (a) coerce its current Top-Tier ERP Applications customers into adopting  
9 HANA through its previously undisclosed reversal in practice and (2) effectively preclude  
10 customers from purchasing competitive EDAW products (including Teradata's EDAW products),  
11 given the fact that these customers know they must adopt SAP's HANA in order to upgrade their  
12 mission-critical ERP Applications. Further, SAP's economic power is derived from severe  
13 information and switching costs. SAP Top-Tier ERP Applications customers are locked-in to  
14 their SAP ERP Applications and are now being exploited by SAP.

15 135. SAP has effectively entered into arrangements with current and prospective  
16 Teradata customers in order to restrain a not insubstantial amount of interstate commerce.

17 136. SAP's unlawful tying is economically irrational conduct that has no legitimate  
18 business justification and only serves to foreclose competition in the EDAW Market for SAP's  
19 Top-Tier ERP Applications customers. Any justification SAP could offer is either pretextual or is  
20 else far outweighed by the anticompetitive effects.

21 137. By reason of the foregoing, SAP's arrangements with its current Top-Tier ERP  
22 Applications customers constitute unlawful agreements or combinations in restraint of trade, in  
23 violation of Section 1 of the Sherman Act, 15 U.S.C. § 1, and Section 3 of the Clayton Act, 15  
24 U.S.C. § 14.

25 138. SAP's tying is per se unlawful given the high degree of market power SAP  
26 possesses in the market for Top-Tier ERP Applications and the power it exercises over its current  
27 Top-Tier ERP Applications customers. Competition in the EDAW Market has been and is  
28 appreciably restrained as a consequence of SAP's conduct.

139. Alternatively, even if SAP's tying is not a per se violation, SAP's tying unreasonably restrains competition in the tied product market and constitutes a rule of reason violation of Section 1 of the Sherman Act, 15 U.S.C. § 1, and Section 3 of the Clayton Act, 15 U.S.C. § 14.

140. SAP's conduct affects far more than a not insubstantial amount of commerce in the EDAW Market. The amount of business affected by SAP's tying arrangement is in the millions and will only continue to increase.

141. Teradata has been harmed and will continue to suffer irreparable harm as a consequence of SAP's conduct. Teradata is entitled to an injunction restraining SAP from engaging in the unlawful tying of upgrades to its ERP Applications with HANA. Unless and until SAP is enjoined, SAP will continue to engage in the unlawful tying set forth above.

142. By reason of the foregoing, Teradata is entitled to injunctive and monetary relief, including treble damages and attorneys' fees, pursuant to 15 U.S.C. §§ 15 and 26.

**COUNT V**  
**(Attempted Monopolization of EDAW Market for SAP Top-Tier ERP Applications**  
**Customers (15 U.S.C. § 2))**

143. Teradata hereby restates and re-alleges the allegations set forth in paragraphs 1 through 142 above and incorporates them by reference.

144. SAP provides Top-Tier ERP Applications and EDAW products.

145. As set forth above, EDAW products for SAP's Top-Tier ERP Applications customers constitutes a relevant product market.

146. SAP has acted with the specific intent to monopolize the EDAW Market for SAP's Top-Tier ERP Applications customers through its exclusionary conduct, specifically, tying upgrades of SAP's Top-Tier ERP Applications to the adoption of HANA, as set forth above.

147. The impact of the above-described exclusionary conduct has been heightened by SAP's attempts to significantly restrict Teradata's ability to access customers' SAP ERP-derived data stored in HANA.

148. SAP was able to engage in the exclusionary practice described above through its misappropriation of Teradata's trade secrets.

1           149. As set forth above, SAP's Top-Tier ERP Application customers could not have  
2 known that SAP would restrict their ability to utilize their EDAW products of choice and force  
3 them to adopt HANA at the time they entered into their agreements with SAP. Further, SAP's  
4 abrupt reversal in its practices after years of permitting customers to use competing EDAW  
5 products demonstrates that SAP's conduct lacks any legitimate business purpose, and serves  
6 solely to foreclose competition.

7           150. Given SAP's power over its Top-Tier ERP Applications customers and the extent  
8 to which SAP's anticompetitive conduct precludes competition in the EDAW Market, there is a  
9 dangerous probability that SAP will acquire monopoly power in the EDAW Market for SAP's  
10 Top-Tier ERP Applications customers.

11           151. SAP has already begun to enjoy the fruits of its anticompetitive conduct, as an  
12 estimated 60% of SAP's largest ERP Applications customers (and perhaps more than 80%), are  
13 employing or preparing to employ HANA. This rate will only rise more rapidly as more  
14 customers upgrade to S/4 HANA and are foreclosed from either licensing alternative EDAW  
15 products or accessing their SAP ERP data for use with Teradata's EDAW products. Rather than  
16 being the product of skill, business acumen, or luck, much of HANA's adoption rate is the direct  
17 result of SAP's anticompetitive conduct.

18           152. Moreover, SAP's conduct has immediate and significant anticompetitive effects.  
19 As set forth above, customers cannot justify paying for EDAW products with substantially  
20 overlapping functionality. As the result of this conduct, Teradata and similarly situated vendors  
21 will be forced to exit the market.

22           153. As a result of SAP's conduct, SAP's Top-Tier ERP Applications customers have  
23 suffered and will continue to suffer from a reduction in choice in the EDAW Market. SAP's  
24 conduct will also have the effect of higher prices, reduced quality, and lower innovation and  
25 output in the EDAW Market for SAP's Top-Tier ERP Applications customers.

26           154. The conduct set forth above constitutes unreasonable and anti-competitive means  
27 by which SAP is attempting to monopolize the EDAW Market for SAP Top-Tier ERP  
28 Applications customers, in violation of the Sherman Antitrust Act, 15 U.S.C. § 2.



155. Teradata has suffered direct and tangible injury as a result of SAP's anticompetitive conduct and the damage it has caused to free and fair competition in the EDAW Market for SAP Top-Tier ERP Applications customers. By reason of the foregoing, Teradata is entitled to injunctive and monetary relief, including treble damages and attorneys' fees, pursuant to 15 U.S.C. §§ 15 and 26.

### **PRAYER FOR RELIEF**

WHEREFORE, Teradata respectfully requests the following relief:

A. A preliminary injunction prohibiting SAP, its officers, agents, servants, employees, attorneys, and affiliated companies, its assigns and successors in interest, and those persons in active concert or participation with them, from continued acts of (1) misappropriation of Teradata's trade secrets, (2) infringement of the Teradata copyrights at issue in this litigation, and (3) violation of antitrust laws;

B. A permanent injunction prohibiting SAP, its officers, agents, servants, employees, attorneys, and affiliated companies, its assigns and successors in interest, and those persons in active concert or participation with them, from continued acts of (1) misappropriation of Teradata's trade secrets, (2) infringement of the Teradata copyrights at issue in this litigation, and (3) violations of antitrust laws;

C. Entry of judgment holding SAP liable for infringing the Teradata copyrights at issue in this litigation;

D. A permanent injunction prohibiting SAP, its officers, agents, servants, employees, attorneys, and affiliated companies, its assigns and successors in interest, and those persons in active concert or participation with them, from disclosing, exploiting, or continuing to utilize Teradata's confidential information relating to Teradata Database, including but not limited to Teradata Database source code;

E. Entry of judgment holding SAP liable for misappropriating Teradata's trade secrets;

F. Entry of judgment holding SAP liable for violating the Sherman and Clayton Acts;

G. An order that all copies made or used in violation of Teradata's copyrights or trade

secrets, and all means by which such copies may be reproduced, be impounded and destroyed or otherwise reasonably disposed of;

H. An order awarding damages, together with pre-judgment and post-judgment interest, to compensate Teradata for SAP's copyright infringement and acts of trade secret misappropriation, including actual and exemplary damages and lost profits, or in the alternative for copyright infringement, statutory damages under 17 U.S.C. § 504(c);

I. An order awarding treble damages, along with reasonable attorney's fees, pre-judgment and post-judgment interest, for SAP's violation of the antitrust laws;

J. An order awarding Teradata its costs and attorney's fees; and

K. Any and all other legal and equitable relief as may be available under law and which the court may deem proper.

### **JURY DEMAND**

Teradata hereby demands TRIAL BY JURY of all claims and issues presented in this Second Amended Complaint so triable.

Dated: December 21, 2018

MORRISON & FOERSTER LLP

By: /s/ Mark Whitaker  
Mark Whitaker

Attorneys for Plaintiffs  
TERADATA CORPORATION,  
TERADATA US, INC., and  
TERADATA OPERATIONS, INC.